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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,596	08/25/2003	S. Brandon Keller	100111234-1	2410

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EXAMINER	
JONES, HUGH M	
ART UNIT	PAPER NUMBER
2128	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/647,596	,KELLER ET AL.	
	Examiner	Art Unit	
	Hugh Jones	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 of U. S. Application 10/647,596, filed 8/20/2003, are pending.

Information Disclosure Statement

2. Paragraphs 4-5 of co-pending application 10/647,595, *incorporated by reference into the instant specification, and which constitute essential matter with respect to the claimed invention*, are recited (emphasis added):

> [0004] The E-CAD tool determines which configuration commands are applicable to particular nets in a VLSI design to expedite analysis of the circuit design. In order to determine which configuration commands are applicable to each net, *"partial specifiers"* are sometimes used to match net names within the netlist. A *partial specifier is a "regular expression" used to identify and optionally select net names and design element names within the netlist*. A regular expression is a source character string that defines pattern-matching and substitution operations on one or more destination character strings. The regular expression uses a set of `special` characters such that the source character string matches specific parts of the destination character string. For example, the `.` character in the source character string matches any one character in the destination character string, while the "*" character in the source character string matches zero or more consecutive characters in the destination character string. *Examples of regular expressions can be found in many software tools (e.g., grep, awk, etc.) of the UNIX operating system. The partial specifier may be implemented only as a subset of the regular expression, for example the partial specifier incorporating only the searching functionality of the regular expression. The character strings "*/scan/shift", "test/h1/*", and "*" are examples of partial specifiers*.
>
> [0005] Prior art E-CAD tools employ several known methods to determine which configuration commands are applicable to nets of a circuit design. *In one method, a partial specifier associated with a configuration command is used to match each net name in a netlist to determine if the configuration command applies to the net*. This method requires a linear amount of time with respect to the number of partial specifiers being checked, and therefore is relatively time-consuming due to the fact that each net name in the netlist is checked against each partial specifier associated with each configuration command. *Another method used to determine applicable configuration commands expands all of the partial specifiers at the outset of the analysis, thus pre-determining which nets match each configuration command.* In a typical VLSI circuit design having millions of nets, both of these processes can be prohibitively lengthy, since they require M.times.N partial specifier matches, where M is the number of net names and N is the number of partial specifiers.

3. These constitute admissions of prior art teachings by Applicants. This information is material and relevant to the examination of this application, in view of the claims and particularly in view of Applicant's arguments (pp. 10-22), and should have been expressly brought forth to the attention of the Examiner.

4. The information, while of record and incorporated into the specification, was not identified in the last office action for the following reason. The instant application, incorporates by reference *12 other applications*, including the specifically named co-pending application, which *by itself* (the others also incorporate by reference multitudes of applications), incorporates by reference *11 other applications*. It is difficult, if not impossible to determine the bounds of the specification and to carefully consider all information contained therein. The courts have addressed this type of issue:

> **"Applicant has obligation to call most pertinent prior patent to attention of Patent Office in a proper fashion and to attempt to patentably distinguish his claimed invention from disclosure of patent" 175 USPQ 260. PENN YAN BOATS, INC. v. SEA LARK BOATS, INC., et al..**

5. Please provide copies of all of teachings as, discussed in the recited paragraphs (and other portions of the specification, including incorporated applications) in the next response to the office.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-20 are rejected under 35 U.S.C. 101 as being directed to nonstatutory subject matter since the claims as a whole do not provide for a practical application, as evidenced by lack of physical transformation or a useful, tangible, and concrete result:

- claims 8-20: The claims recite software per se;
  - claims 8-17: the limitations are broadly defined in the specification (par. 34) to be drawn to "software modules" (claims reciting processor, storing or memory, etc., encompass nonstatutory features);
  - claims 18-20: claim 18 now recites "instructions";
- claims 1-7: The claims do not provide for a tangible result (claims reciting storing or memory encompass nonstatutory features);
- claims 8-20: the claims do not provide for a tangible result.

8. Claims reciting storing or memory encompass nonstatutory features:

> [0034] Since certain changes may be made in the above methods and systems without departing from the scope, one intention is that all matter contained in the above description or shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. By way of example, those skilled in the art should appreciate that items 102, 103, 104, 106, 108, 110, and 112 may be constructed, connected, arranged, and/or combined in other formats, such as software modules, without departing from the scope of the invention. Additionally by way of example, those skilled in the art should appreciate that items 301, 303, 305, and 306 may be constructed, connected, arranged, and/or combined in other formats without departing from the scope.

9. In other words, # 102, 104, for example, can be *constructed* in another format, including software modules (*or* software modules). Thus, # 102, 104 are defined broadly enough to include non-tangible embodiments.

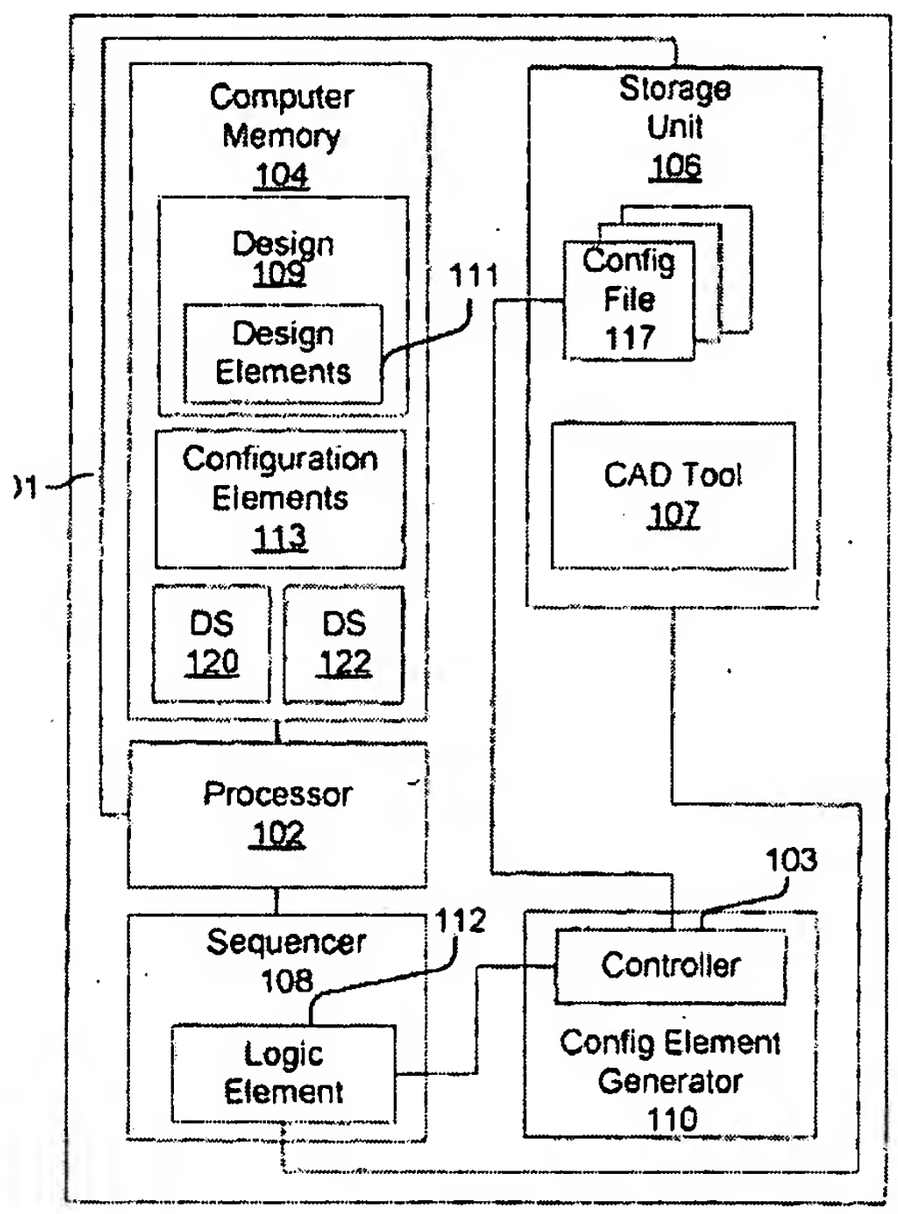

FIG. 1

102 refers to a processor; 104 refers to computer memory:

[0020] Computer memory 104 stores single copies of configuration elements 113 by their association with design elements 111. For example, in an E-CAD design, computer memory 104 stores an association of a particular

306 refers to a storage unit:

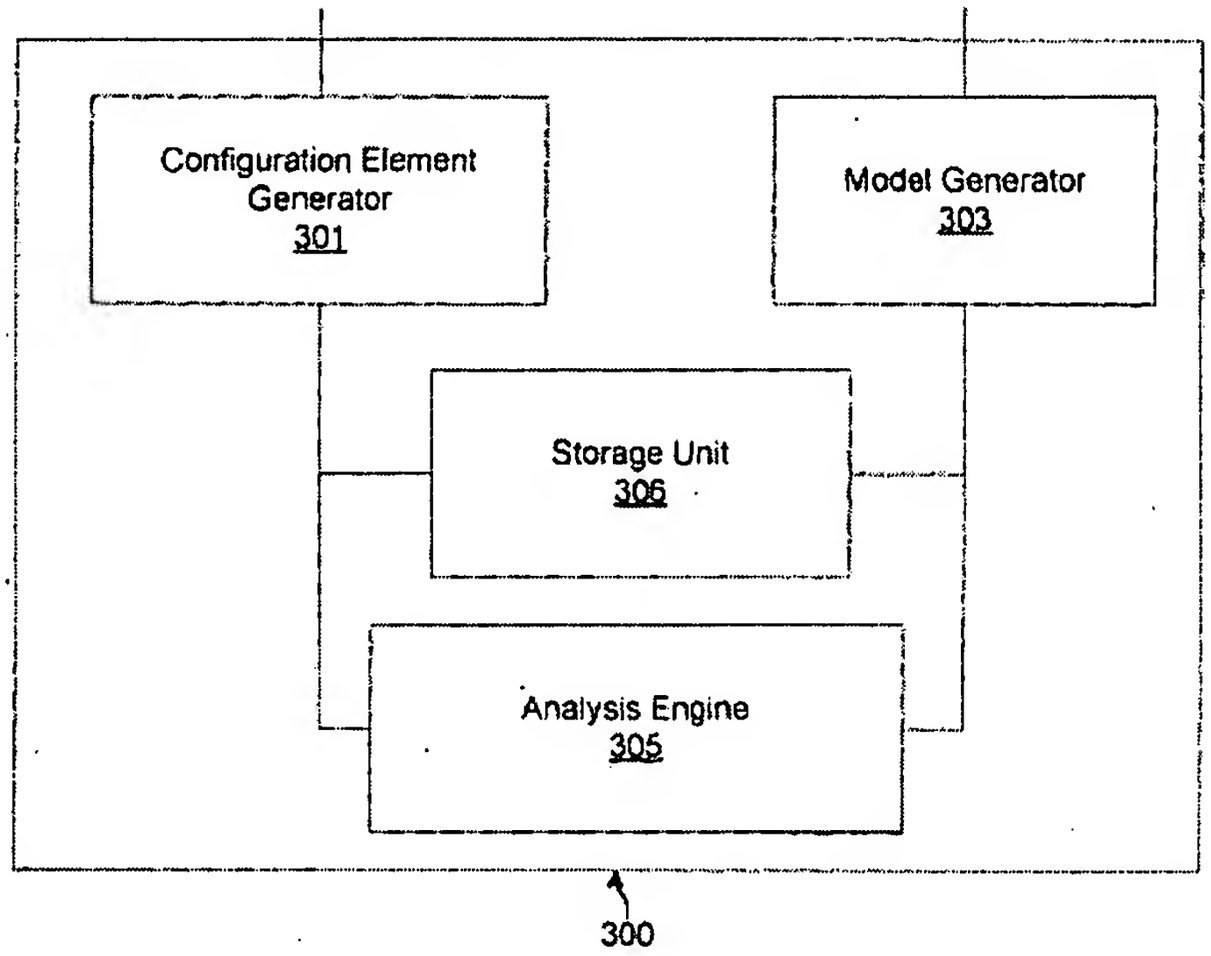

FIG. 3

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Applicant's Admitted Prior Art (AAPA).

12. AARA discloses (par. 2-5 of incorporated application 10/647,595):

> [0002] An electronic computer aided design ("E-CAD") tool is used to create a circuit design, including a very large scale integration ("VLSI") circuit design. The circuit design includes a "netlist," which defines a collection of nets specific to the circuit design. A "net" is a single electrical path in a circuit that has the same electrical characteristics at all of its points. For example, a collection of wires that carries the same signal between components is a net. If the

components allow the signal to pass through unaltered (as in the case of a terminal), then the net continues on subsequently connected wires. If, however, the component modifies the signal (as in the case of a transistor or a logic gate), then the net terminates at that component and a new net begins on the other side. A "net name" identifies a particular net within the netlist.

[0003] E-CAD tools often require configuration information to properly analyze the circuit design. The configuration information includes "configuration commands" that are selectively applied to nets within the netlist. A configuration command is a function used to set an electrical characteristic of a component of the circuit design (hereinafter termed a `design element`). A design element represents a single component (e.g., transistor, wire, resistor, capacitor, diode, logic gate), a net, or a group of design elements structurally linked within the circuit design and processed by the E-CAD tool. Each configuration command may include, for example, a command type field, indicating the type of design element or circuit characteristic to which the command is applicable, a net name field, indicating the specific net to which the command is applicable, and a value field, indicating the value to which the named net is to be set. A configuration command might also, for example, contain only the command type field and value field, which are externally associated with a net name or design element name. These fields are applied to a design element to establish specific characteristics for that design element. For example, a configuration command `voltage VDD 2.1V` may be used to set the supply voltage of a net named `VDD` to 2.1 volts.

[0004] The E-CAD tool determines which configuration commands are applicable to particular nets in a VLSI design to expedite analysis of the circuit design. In order to determine which configuration commands are applicable to each net, "partial specifiers" are sometimes used to match net names within the netlist. A partial specifier is a "regular expression" used to identify and optionally select net names and design element names within the netlist. A regular expression is a source character string that defines pattern-matching and substitution operations on one or more destination character strings. The regular expression uses a set of `special` characters such that the source character string matches specific parts of the destination character string. For example, the `.` character in the source character string matches any one character in the destination character string, while the "*" character in the source character string matches zero or more consecutive characters in the destination character string. Examples of regular expressions can be found in many software tools (e.g., grep, awk, etc.) of the UNIX operating system. The partial specifier may be implemented only as a subset of the regular expression, for example the partial specifier incorporating only the searching functionality of the regular expression. The character strings "*/scan/shift", "test/h1/*", and "*" are examples of partial specifiers.

[0005] Prior art E-CAD tools employ several known methods to determine which configuration commands are applicable to nets of a circuit design. In one method, a partial specifier associated with a configuration command is used to match each net name in a netlist to determine if the configuration command applies to the net. This method

requires a linear amount of time with respect to the number of partial specifiers being checked, and therefore is relatively time-consuming due to the fact that each net name in the netlist is checked against each partial specifier associated with each configuration command. Another method used to determine applicable configuration commands expands all of the partial specifiers at the outset of the analysis, thus pre-determining which nets match each configuration command. In a typical VLSI circuit design having millions of nets, both of these processes can be prohibitively lengthy, since they require M.times.N partial specifier matches, where M is the number of net names and N is the number of partial specifiers.

Response to Arguments

13. Applicant's arguments, filed 1/5/2007 have been carefully considered and are not persuasive.

14. The Hunt reference is withdrawn in view of the new rejection. The arguments are moot.

15. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to: Dr. Hugh Jones telephone number (571) 272-3781,

Monday-Thursday 0830 to 0700 ET,

or

the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or (703) 308-1396 (for informal or draft communications, please label *PROPOSED* or *DRAFT*).

Dr. Hugh Jones

Primary Patent Examiner

April 1, 2007

HUGH JONES Ph.D.
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100